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ABSTRACT

An assessment of recent trends in developmental research examined all articles published in the periodical "Child Development" from 1967-1983. Of the articles that were included in the "Child Development Abstracts and Bibliography" in the same period, 200 articles from each year of the period were randomly selected for assessment. Sixteen keywords were used to categorize the content of articles: (1) abnormal development; (2) cognition; (3) communication-language; (4) education; (5) emotion; (6) family relations; (7) intelligence; (8) learning; (9) memory; (10) methodology; (11) moral development; (12) perception; (13) personality; (14) physical development; (15) social development; and (16) theory. Findings revealed an initial increase and subsequent decrease in the amount of research citing cognitive development. There was a dramatic decline in learning research. Several publication trends specific to "Child Development" were identified. In particular, research on social development was more prominent in "Child Development" than in other developmental journals. It was concluded that journal editorial policy may influence publication trends. Research trends are discussed in the context of journal characteristics and general changes in content areas. (RH)

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# Recent Trends in Developmental Research: A Quantitative Analysis

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Recent Trends in Developmental Research:

A Quantitative Analysis

Abstract

In an assessment of recent trends in developmental research, the content of all articles published in Child Development between 1967 and 1983 and 200 articles randomly selected per year from the Child Development Abstracts and Bibliography were examined via reference to key words. Consistent findings across sources revealed an increase and subsequent decrease of research citing cognitive development and a dramatic decline in learning research. A number of trends were found to be specific to Child Development over the time period studied and, in particular, social development was more prominent in Child Development than in other developmental journals. Comparisons of these trends with editorial direction led to the conclusion that the latter may have had substantive implications for publication trends. Trends are discussed in the context of specific journal characteristics and general changes in the content areas themselves.

## Recent Trends in Developmental Research:
## A Quantitative Analysis

The developmental psychological literature contains a number of anecdotal commentaries on the changing fashions and trends within specific areas of research; these views should be contrasted with the more rigorous historical examinations of the field (e.g., Cairns, 1983). Recent anecdotal examples are the putative rise of research in cognitive development. For example, in describing changes for the fourth edition of the classic, Handbook of Child Psychology, the general editor, Mussen (1983) notes that cognitive developmental research is "the content area of greatest activity since 1970" (p. vi). A similar sentiment was echoed by Brainerd (1983) who remarked that the area of cognitive development was "far and away the most active discipline within developmental psychology" (p. v). Others have commented on the marked decline in learning research; for example, Stevenson (1983) stated that "learning had been displaced by a newfound interest in cognitive development" (p. 213). Such common observations of research trends and fashions are ubiquitous and widely accepted, although with few exceptions (e.g., Boring, 1954; Lissitz, 1969) are seldom tested. It would seem a useful task to document and to test quantitatively the validity of such anecdotal assertions; quantitative approaches to the study of history (see Hays, 1984 for a discussion of scientific versus traditional methods), and specificially, to the study of developmental psychology have been employed (e.g., Borstelmann, 1974), however a detailed analysis of publication trends has not been undertaken.

The purpose of the present study was to document the publication trends in (a) the general field of developmental psychology and (b) specifically in the journal, Child Development.

Taking a quantitative approach, Boring (1954) used archival sources to validate the hypothesis that psychology had acquired more "rigorous" experimental methods over the course of the century by counting the number of articles using control groups in the Journal of Experimental Psychology for the years 1916, 1933 and 1951. Lissitz (1969), employing a more elaborate coding system, reported a similar trend toward experimental rigour for clinical psychological research, but not for psychiatric research. Thus, while Boring's hypothesis was generally correct, it did not apply as broadly as might have been expected.

The bulk of quantitative work on historical and contemporary trends has been limited to citation counts, mainly using recent psychology textbooks as the data source to establish "classic" works (i.e., pre-1960) in the field (Borstelman, 1974; Hogan & Vahey, 1984; L'Abate, 1969; Thompson, 1983). Although, some names were cited across studies (e.g., Piaget, Freud), the most striking conclusion was a lack of consistency among textbook citations. L'Abate (1969) provided a broader perspective by comparing citations in Child Development, Journal of Genetic Psychology and 12 textbooks covering the period from 1949-69 and reported only two authors (Jean Piaget, Robert Sears) were cited in all three sources. L'Abate argued that journal citations may reflect the "most immediate applicability of an author's theory and experiments", whereas textbook citations may reflect more durable, transcendent work. Moreover, the construction and con-

tent of textbooks may be as much a reflection of the perceived needs of the market as of those of the discipline. The diversity of the targeted market for developmental psychology textbooks may provide a partial explanation for the inconsistency of the findings reported above. One implication of these conclusions is that journals may be more likely than textbooks to provide data sensitive to temporal changes in theoretical and research trends, a conclusion which should be tempered by consideration of the manner in which particular authors are cited. Coleman and Salamon (1988), for example, reported that the impact of T.S. Kuhn's Structure of Scientific Revolutions (Kuhn, 1962, 1970) was greater on the philosophical-methological psychological literature than on the experimental literature. Although Kuhn was cited frequently, 75% of these references were of a superficial nature and less than 3% of the articles directly focussed on his ideas. Although citation counts may provide a relatively objective measure of the impact of individual scholars (Margolis, 1967), and perhaps an assessment of the relative influence of different theoretical perspectives, it is a very indirect approach to characterizing the nature of trends within the field. Furthermore, this focus on major works or highly visible contributors may overestimate the impact of a few prominent figures.

A survey of the content of published articles provides more general information about the stability and temporal shifts in the major and minor research interests of a particular field. In the psychological literature, for example, Stone and Shertzer (1964) categorized the content of articles appearing in the

Personnel and Guidance Journal (1952-1962) and noted changes in topics from the first five year period to the second. The content of articles in the American Educational Research Journal (1964-1968) was categorized by Di Vesta and Grinder (1968), however, data were grouped and not presented chronologically. McCandless (1970) examined both submissions and acceptances by Developmental Psychology according to subject characteristics, techniques employed and content. Horrocks and Hogan (1973) classified the content of articles published in the Journal of Genetic Psychology for the periods 1945-1957 and 1957-1969. Although the above studies attempted to classify the content of research, there is clearly need for more detailed study of temporal publication trends within psychology, and more specifically, within developmental psychology.

A note of caution seems in order here: one of the principle functions of an archival scientific journal is to be selective in what is retained for the record. One should not forget, however, that the record is of articles that were published and being read rather than research being proposed, conducted and written about. Ideas and issues sometimes arise that may fail to establish a paradigm or methodology compatible with those in current fashion, which nonetheless, have a broad indirect and informal impact on the field. This issue of selective deposit (Webb, Campbell, Schwartz & Sechrest, 1966) is of special concern to us, because it is a conceptual as well as methodological issue. That is, the selection of articles for publication shapes not only our interpretation of the trends in the field, but also directly shapes those very trends. Figures presented by McCandless (1970) for

Developmental Psychology reveal that acceptance rates may vary according to subject population, techniques employed and content area. Similar trends were noted by Jeffrey (1975) for content areas in Child Development. The issue of selective deposit was recently addressed in reference to the paucity of articles on adolescence published in Child Development (Adams, 1984) and is clearly a critical one for archival researchers.

For the present study, we have drawn upon two archival sources: (1) published research appearing in the journal, Child Development and, (2) published research abstracted in Child Development Abstracts and Bibliography for the years 1967-83. Child Development was selected for its long publication history (over 50 years), its high circulation rate (Standard Periodical Directory, 1982) and, the difficulty in assessing prestige notwithstanding (Glenn, 1971; Hogan & Hedgepeth, 1983), for its apparent leading position among developmental journals (Feingold, 1989; Koulack & Keselman, 1975; Muller-Brettel & Dixon, 1985; Peery & Adams, 1981). Nevertheless, restricting ourselves to a single data source might have resulted in a highly idiosyncratic and biased view of recent trends (Borstelmann, 1974; L'Abate, 1969; Lissitz, 1969; Thompson, 1983). Hence, both as a context and a test of the representativeness of trends in Child Development, a broader sample of research was obtained from the Child Development Abstracts and Bibliography. This latter publication has been described as developmental psychology's oldest journal and as "an historical catalogue" of the interdisciplinary field of child development (Williams, 1978).

## Method

The first database was obtained from Psychological Abstracts by a computer search of all articles published in Child Development from 1967-1983. The Psychological Abstracts information system began abstracting articles in mid-1966, thus establishing the starting point of our study. The Psychological Abstracts system provides various kinds of information about articles including keywords used to categorize the content of articles; the frequency of these keywords constituted the database for our analysis of trends.

A Thesaurus of Psychological Index Terms (American Psychological Association, 1982) lists all keywords, defines some and indicates the year keywords were introduced into or deleted from the system. To overcome problems resulting from minor changes in the APA classification system and to facilitate interpretation of the analyses, we collapsed the more than 800 possible keywords into 16 broad and relatively enduring categories: abnormal development, cognition, communication-language, education, emotion, family relations, intelligence, learning, memory, methodology, moral development, perception, personality, physical development, social development, and theory. Selection of the 16 categories was based on a three step procedure: (a) the classification scheme reported in the Thesaurus of Psychological Index Terms, Appendix E, (b) a survey of recent textbooks, and (c) topics generated by developmental psychology faculty and graduate students.

In regard to the first step, the APA classification system

includes 16 superordinate terms with related sub-terms. We directly adopted three APA superordinate terms (Personality, Communication, Education) and incorporated a subterm of General Psychology (History & Philosophies & Theories) as theory. Two superordinate categories were incorporated as sub-categories in our system (Physiological Psychology into physical development and Social Processes and Social Issues into social development). Physical and Psychological Disorders and Treatment and Prevention were collapsed into abnormal and Psychometrics and General Psychology (Research Methods) became methodology. The superordinate term, Developmental Psychology was subdivided into four categories: cognition, perception, social and personality; likewise, Experimental Psychology (Human) was subdivided into perception, cognitive, emotion, learning and memory. Finally, five superordinate categories, inappropriate for our purposes, were not employed: Applied Psychology, Professional Personnel, Experimental Social Psychology, Experimental Psychology (Animal) and Physiological Intervention.

As a second step in the selection of our 16 categories, we investigated topics covered in recent introductory developmental textbooks (e.g., Hetherington & Parke, 1979); a survey of topics typically covered indicated that the APA system failed to capture some areas of development that we considered to be important such as family relations, intelligence, and moral development. Therefore, these areas were added to the pool of categories developed in step one.

Third, we asked 15 faculty and graduate students in a grad-

uate developmental psychology program to generate lists of the major topic areas in developmental psychology. The judges generated remarkably similar lists and an informal inspection indicated close correspondence to both the APA classification system and the areas covered in the textbooks noted above; most terms generated by the judges were general categories (e.g., social, cognitive development). In order to keep the categories generic and thus general, we consulted with the judges and some suggested areas were subsumed under broader categories (e.g., physiological development under physical development and socialization under social development). At this point, we derived a master list of our 16 categories based on comparing the most frequently cited topics generated by our colleagues with those adapted from the APA system and our survey of textbook topics. Finally, the master list was recirculated and received the judges' approval.

To review, our data base was constructed from the APA keywords used to categorize articles. The keywords listed under the 16 major categories were grouped for conceptual and theoretical consistency using the APA Thesaurus as a guide.[1] The 16 categories and examples of keywords are presented in Table 1.

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put Table 1 about here

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To begin the data analysis, the presence of each of the 16 major categories was determined for each article published. It should be noted that these categories were not mutually exclusive. Furthermore, a given article might contain three keywords (e.g., peer relations, social behavior, social interaction) that

would fall under the superordinate category (e.g., social development); however, the category would only be coded once. Thus, a given article might contain anywhere from 1 to 16 categories and, for example, might be coded for social development, cognition, family relations and communication-language. It should be noted that the numerous keywords used to describe articles were extremely detailed and therefore, a currently popular term such as social cognition would have been identified under both social and cognitive development. In order to represent relative change, the frequency data were converted into proportion of articles mentioning a given category in a given year. Thus, for example, we were able to determine that in 1967, 18% of the articles published in Child Development refered to social development.

The issue of reliability of archival sources is clearly a critical one for historical researchers. We assumed that Psychological Abstracts would accurately reflect the Child Development publication record, given that sampling was presumably exhaustive. However, the computer search indicated that three issues (1974, Nos. 3, 4; 1977, No. 4) had not been abstracted and included in the Psychological Abstracts computer data file. Therefore, we classified the missing issues by coding the title and abstract of each article for the presence of the 16 categories. A reliability check on the coding of every second article in the missing issues was conducted and the overall Kappa coefficient for the 16 categories was .74. As a further validity check on our coding of the missing issues, we selected a year at random (1975) and coded every second article using the 16 categories; a

comparison of our coding with that from Psychological Abstracts produced an overall Kappa of .77. One category, theory, appeared to be unreliable (Kappa = .20) and excluding this category, the mean Kappa was .81; the low Kappa resulted from a consistently more frequent coding of this category in our scoring of the data than was reported in Psychological Abstracts.

The second set of data were obtained from Child Development Abstracts and Bibliography (hereafter referred to as the Abstracts) and provided information regarding publication trends in the wider field. The Abstracts, first published in 1927, have an interdisciplinary scope and include articles on child development from psychology, education, anthropology, sociology, and the health sciences (Williams, 1978). In view of the large number of articles and books abstracted annually (e.g., 2337 in 1982), a random sample of 200 articles per year was selected for the period 1967-1983 and constituted our second data set. This number was selected because it was roughly comparable to the number of articles published annually in Child Development. The index of each volume of the Abstracts provided the keywords from which to classify the content of each article. For each year, a search was made for every indexed entry for the 200 abstracts and every entry was then classified according to the coding scheme described previously. Since all occurrences of the 16 categories within each article were scored, once again, a given article might contain codes for social development, moral development, and cognition. In order to interpret the trends, the frequency of categories was converted into the proportion of articles mentioning a specific category in a given year. Thus, for exam-

ple, we determined that in 1967, 10% of the articles listed in our sample from the Abstracts contained references to social development. A reliability check of the coding was conducted by having a second person code two complete years (1970, 1980) and a mean Kappa coefficient of .80 was achieved.

## Results

Number of Publications. The number of articles published annually in Child Development from 1967 to 1983 is documented in Figure 1. Clearly, the number of publications in the journal has expanded over the time period studied, particularly since 1970. Over the 17 years, Child Development had four editors: Alberta E. Siegel (1965-1968); Bettye M. Caldwell (1969-1971); Wendell E. Jeffrey (1972-1977); E. Mavis Hetherington (1978-1983). Thus, there are three editorial transition points during the period studied: 1968-1969, 1971-1972, 1977-1978.

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Content of Publication. We initially set out to determine the degree to which the different categories were represented in the 17-year period in the two data sets. The proportion of articles refering to each of the generic terms of research interest in both Child Development and the Abstracts are presented in Table 2. Tests of significance of differences between proportions for Child Development and the Abstracts were conducted.

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The first two areas listed in Table 2 are perhaps of the highest level of generality, at least of content categories. Over one third of all articles published in Child Development were indexed under cognition. Even in the broader domain covered by the Abstracts, although there were significantly fewer articles citing cognition, they were second in number only to articles on abnormal development. The results for Child Development also differed significantly from those in the Abstracts in the areas of social development, family relations, personality, perception, methodology, and learning; these six areas were cited more frequently in Child Development than in other journals in the Abstracts. The only fields represented more frequently in the Abstracts than in Child Development were education and abnormal development. In general, however, the relative proportions of the representation of the different areas were similar in the two sources. A Pearson Product Moment Correlation between the two sources across areas revealed a correlation of .45, $p < .05$ (one-tailed test).

Temporal Trends. In our next analysis, we examined the temporal trends for the various areas of research; here the proportion of articles citing each of the areas in the two sources annually between 1967 and 1983 was employed. Initial inspection of the data suggested that references for certain categories evidenced secular trends with both linear and quadratic components. Hence, both first- and second-order correlations were

computed between year of publication and annual proportions of articles citing the various areas. These analyses were conducted separately for the two data sets and the results are presented in Table 3.

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Clearly, references to social development increased dramatically and linearly in articles published in Child Development over the 17 years (Figure 2) and in, fact, the proportion increased from approximately 20% in the late 60s to over 30% in the 80s. Interestingly, three other significant positive correlations were found for areas closely connected to social development, namely, emotion, family relations, and moral development. The rather strong temporal correlations for these areas in Child Development were not found in the sample from the Abstracts.

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References to a number of areas decreased in recent years. The decline of learning as an issue in developmental research was dramatically and unequivocally documented in both data sets; approximately 30% of articles cited learning as a subject of study in the late 60s and early 70s, however, by the 80s, the proportion was less than 10% (Figure 3). The rate and extent of the decline was remarkably similar in both data sets. Evidence was also provided for linear declines in references to percep-

tion, theory, methodology, abnormal development and education research issues in the general sample from the Abstracts only.

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When a correlation was computed including a quadratic component, a number of additional significant effects were obtained. The correlation coefficient including the quadratic component for the proportion of articles citing cognition was significantly different from linearity for both Child Development and the Abstracts. The proportion of articles citing cognition increased substantially in the first half of the period and declined in the second half for both sources (Figure 4). Indeed, the proportion of articles citing cognition in 1967 and 1983 was very similar in both sources (20-25%), whereas both sources peaked in 1974. The increase of cognition citations appears to have been somewhat earlier, stronger and more sustained in Child Development than in the more general sample. Moreover, the proportion of articles citing the closely related category of memory in both sources was also significantly correlated with year of publication when the the quadratic component was included.

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put Figure 4 about here

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For Child Development only, the higher-order correlation was a significant improvement over the linear correlation for personality, communication-language, abnormal development and physical development. Communication-language appeared to have a temporal

pattern similar to that described for cognition and memory. The category, abnormal development had the opposite pattern to the cognitive categories with references declining throughout the 70s, but increasing in the 80s. This general pattern was observed in both data sets, but was reliable only for Child Development; the reason for this appears to have been a poorer recovery in the 1980s in journals in the Abstracts. The patterns for personality and physical development are similar to those for abnormal development, but again were significant only for Child Development.

## Discussion

The number of articles published over the period 1968-1983 in Child Development is of some interest in itself. Jeffrey (1970) as editor-elect, announced in December, 1970, that beginning with Volume 43, the journal would be divided into three parts: reviews, articles and brief reports. In fact, the section containing brief reports was introduced somewhat earlier, in Volume 42, No. 2. Jeffrey (1975) later explained that the addition of brief reports permitted an increase of 35% in the number of manuscripts accepted. We did not find such an abrupt change in the number of articles published in any given year, although the overall increase over the next three years was approximately 60%. However, at the end of his tenure, Jeffrey, in a philippic on piecemeal publishing, announced in conjunction with E. Mavis Hetherington (1977), the incoming editor, a new editorial policy of publishing longer, more programmatic research. Numbers of articles published dropped substantially the next year and were

stable during the Hetherington years. Thus, the increase and decrease of the numbers of articles published in Child Development may be attributed to specific editorial decisions. We can interpret the increase in 1971 as a result of an explicit decision to expand Volume 42 to relieve a backlog of articles built up during the Caldwell years (Caldwell, 1971). The increase during the Jeffrey years likely resulted from the decision to publish brief articles (Jeffrey, 1970, 1975). The decrease following the Jeffrey years was likely the result of the decision (Hetherington, 1977) to publish longer reports of programmatic research.

The dramatic shift in the emphasis on social development in Child Development during the 70s is an intriguing finding of our research. Superficially, there appears to be a close correspondence between the increase in total number of articles in the mid-70s (Figure 1) and the proportional increase in social references (Figure 2). This correspondence might suggest that approximately half of the additional articles were in the social domain. Given that we are concerned with the proportional increase in the number of social development articles, we assume that there were a larger number of submitted papers in this area that were marginally rejected under the earlier, lower rate of publication. It has been documented that rejection rates are much higher in the social sciences than in the natural sciences and even within psychology, rejection rates have been found to be considerably higher in abnormal, social, clinical and educational journals than in experimental, comparative and physiological journals (Merton, 1973). Perhaps within the area of child devel-

opment, differential rates hold between social developmental research and other developmental areas, although we are unaware of any research bearing on this issue within the more restricted domain. Unfortunately for this line of reasoning, there is one important anomaly. In the first year (1975) of the increase in publications citing social development, there was a decrease in the total number of articles published. Thus, the increase in articles citing social development issues preceded the increase in the available journal space.

We considered the possibility that new journals in areas, such as cognition, might be attracting submissions away from Child Development, thus making the emphasis on social development in Child Development more prominent. On the contrary, however, there was evidence of decreased references to cognition and related areas in all journals (including such new publications) in the latter part of the period.

Another more compelling and interesting line of reasoning involves an analysis of the policies and the composition of the editorial board of Child Development. In the late 60s and early 70s, Bettye Caldwell, a researcher in the area of social development, was editor of the journal. The relative rate of publication of articles citing social development was consistently higher than that for other developmental journals and was also substantially higher than that for the final years of Alberta Siegel's editorship. It was noted that there was an increase in the total number of articles published during the Jeffrey years; although Jeffrey is not identified primarily as a social devel-

opmental researcher, he began his term with an associate editor, Charles Nakamura, who is identified as a social developmentalist. The proportion of articles citing social developmental issues declined during a period in which such proportions were increasing in other journals until, in 1974, the proportion of articles citing social development in Child Development was at the same level as for developmental journals in general (see Figure 2). In 1974, the year that the proportion of journals citing social development reached its lowest point, a second associate editor, Ross Parke (also a researcher in social development), was added to the editorial board. In 1975, the roster of associate editors was further expanded to include Parke, John Masters, a researcher in personality and social development, and Ellen Scholnick, a researcher in cognitive and language development. Thus, three of four associate editors over this period were identified as social development researchers. After 1975, the rate of publications citing social development issues increased steadily and diverged from the proportions being published in other journals. It strikes us that the composition of the editorial board and, in particular, the perceptions of researchers in the field of the composition of the editorial board may have discouraged social development research submissions in the early 70s and subsequently encouraged such submissions after 1974-1975. It is also possible that the new editorial board may have seen themselves as "specialist" editors who had a different attitude toward research in their own area than they might have had as more "general" editors. In any case, these arguments suggest that the composition of the editorial board did have an impact on the nature of

the distribution of articles in the journal. Following Jeffrey's editorship, the rate initially declined and then stabilized, although it remained substantially higher than that for developmental journals in general. In 1983, E. Mavis Hetherington (a social development researcher) became editor with an expanded board of associate editors including, Charles Brainerd (cognition), Ann Brown (cognition), Rachel Clifton (perception-physiology) and Carolyn Shantz (social cognition), which clearly represents a broader sampling of associate editors.

The temporal trends for references to cognition in Child Development appeared to mirror the general pattern evident in the larger field; both sources showed a significant quadratic component with virtually no linear component. References to cognition increased markedly during the first half of the period, and thereafter, declined such that the proportions at the beginning and end of the period were very similar. This trend was replicated for the related areas of communciation-language in Child Development and for memory research in both samples, thus supporting the argument that this represented a general trend for cognition and related areas.

The 1970s represented a flowering of research in cognitive development which may have been the result (or possiblity cause) of the declining interest in learning. Stevenson (1983) has asserted learning phenomena were reinterpreted in cognitive terms and that some learning researchers moved into the cognitive area. Nevertheless, one must recall that the proportion is of articles making reference to cognition; thus, some of the increase may

reflect not a focus on cognitive processes per se, but rather a greater integration of cognitive issues, especially Piagetian, into other areas. For example, investigators may have begun to examine the relation of cognitive maturity to social skills (e.g., Flavell, 1977; Shantz, 1975). In the same way, the decline of learning presumably reflects not only a decline of specific learning research, but also of the use of learning to understand other phenomena, such as perception or social development. The recent decline in articles citing cognition may reflect a shift toward information processing which, initially may have been self-contained and only very recently been integrated into other areas, such as social development.

Three areas underwent decline and subsequent recovery, namely, personality, abnormal development and physical development, however, these trends were significant only in Child Development. The increase in personality factors may reflect the interest in social development, and may also index a change from descriptive-normative to more theoretical-dispositional interest in social development research. For abnormal develoment and physical development, the recovery was reinforced by two symposia published as special issues in 1983 on "Developmental Behavior Genetics" (April) and "Biological Risk" (October). Here we have evidence of specific editorial policy aimed at influencing the course of the temporal publication trends. During the time period studied, there is one other direct example of such editorial direction: in 1978, Child Development published a symposium of seven articles on communciation-language. This represented the peak year for this category, which was followed by a sharp decline in the

proportion of articles referencing communication-language. Whether the editorial influence will be more durable in the case of physical and physiological development than it was for communication-language remains to be determined.

Finally, the most dramatic difference between Child Development and other journals surveyed in the Abstracts was in the high proportion of references to methodology. This difference appears to have arisen because of the marked decline in such references over the 17-year period in other journals cited in the Abstracts. The editors of Child Development have actively solicitated theoretical and review papers (e.g., Hartup, 1984), as well as giving such reviews prominence as the lead articles in each issue since 1974. These papers almost inevitably discuss methodological issues and their implications for theoretical interpretations (e.g., Dunn, 1983). Nonetheless, this can be only a partial explanation, given that the number of references to theory does not differ from other journals cited in the Abstracts. However, the reliability of the category, theory, was not high, hence this latter test may have been lacking in statistical power. The frequent references to methodological issues may also be an indirect result of Child Development's extremely high rejection and resubmission rates since presumably, a large proportion of rejections are due to methodological considerations. The rejection rate has risen, along with the publication rate, from 62% in 1967 (Siegel, 1968) to 78% from 1972-1978 (Jeffrey, 1977) to 90% at one point in the 1980s (Hetherington, 1981). Resubmissions may consequently contain methodological rebuttals or acknowledg-

ments.

In summary, the archival approach to the study of trends in developmental psychology has, in our view, proven to be a fruitful exercise. Current data have generally supported traditional interpretations of the period from 1967 to 1983 and have also provided additional information. The results suggest a rather coherent approach to research in that trends have been fairly similar among conceptually related fields, which would seem to contradict the notion of a loosely connected set of narrow paradigms fluctuating randomly without reference to a broader conceptual framework. Nevertheless, within this larger conceptual matrix, several publication trends specific to Child Development were clearly identified. Such detailed analyses of publication trends within the area of developmental psychology may ultimately provide new insights into our past history; we predict such a study may recursively feed into our future development as a field and ultimately to a broader understanding of the phenomenon of development itself.

## Footnote

[1]The list of keywords and coding manual is available from the first author upon request.

Table 1

Topic Categories and Sample Keywords*

1) Abnormal Development: epilepsy, etiology, trainable mentally retarded.
2) Cognition: cognitive, concept development, cognitive ability.
3) Communication-Language: verbal/nonverbal communication, communication skills.
4) Education: classroom behavior, student attitudes, mainstreaming.
5) Emotion: temperament, tantrums, emotion.
6) Family Relations: child rearing, sibling/family relations.
7) Intelligence: intellectual development, intelligence.
8) Learning: gratification delay, operant conditioning, observational learning.
9) Memory: long term memory, short term memory, recall.
10) Methodology: experimenter bias, statistics, independent variables.
11) Moral Development: moral development, morality, justice.
12) Perception: spatial perception, intersensory processes, auditory perception.
13) Personality: personality development, personality traits, personality styles.
14) Physical Development: physical development, maturation, gestation.
15) Social Development: social behavior, peer relations, social interaction.

16) Theory: theory, theory verification, professional criticism.

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*Keywords are listed in the American Psychological Association (1982). Thesaurus of Psychological Terms. Washington, D.C.: Author.

Table 2

Proportions of Articles Citing Each Interest Area for the Two Sources from 1967 to 1983

| | Child Development | Abstracts |
|---|---|---|
| Cognition | .39 | .19* |
| Social | .26 | .12* |
| Emotion | .06 | .03 |
| Family | .14 | .08* |
| Moral | .04 | .02 |
| Personality | .13 | .08* |
| Communication | .18 | .11 |
| Memory | .11 | .07 |
| Perception | .17 | .08* |
| Intelligence | .06 | .04 |
| Theory | .06 | .06 |
| Methodology | .31 | .10* |
| Education | .12 | .18* |
| Abnormal | .07 | .23* |
| Learning | .22 | .16* |
| Physical | .13 | .11 |

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*proportion differs from that of Child Development, $p < .05$

Table 3

Significant Temporal Correlations by Area and Source

| | Child Development | | Abstracts | |
|---|---|---|---|---|
| | r | R | r | R |
| Cognition | | .86[2] | | .69[2] |
| Social | .73[1] | | | |
| Emotion | .49[1] | | | |
| Family | .69[1] | | | |
| Moral | .56[1] | | | |
| Personality | | .64[2] | | |
| Communication | | .72[2] | | |
| Memory | | .63[2] | | .60[2] |
| Perception | | | -.66[1] | |
| Intelligence | -.80[1] | | | |
| Theory | | | -.86[1] | |
| Methodology | | | -.78[1] | |
| Education | | | -.71[1] | |
| Abnormal | | .77[2] | -.65[1] | |
| Learning | -.90[1] | | -.80[1] | |
| Physical | | -.84[2] | | |

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[1]linear, $p < .05$, df = 15, 2-tailed

[2]quadratic, $p < .05$, MS (deviations from linear)/MS error, df = 1,14

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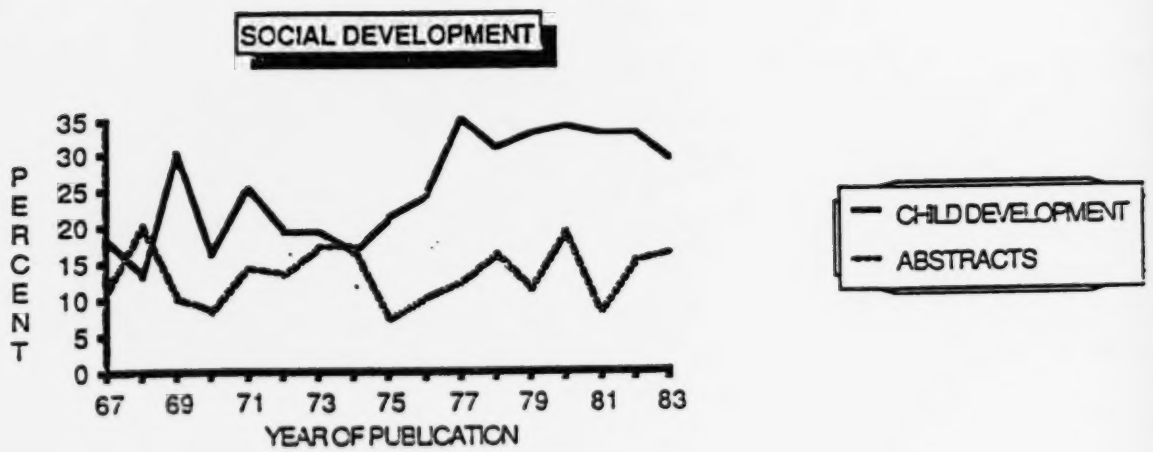


Figure 2: Percent Articles Citing Social Development Annually

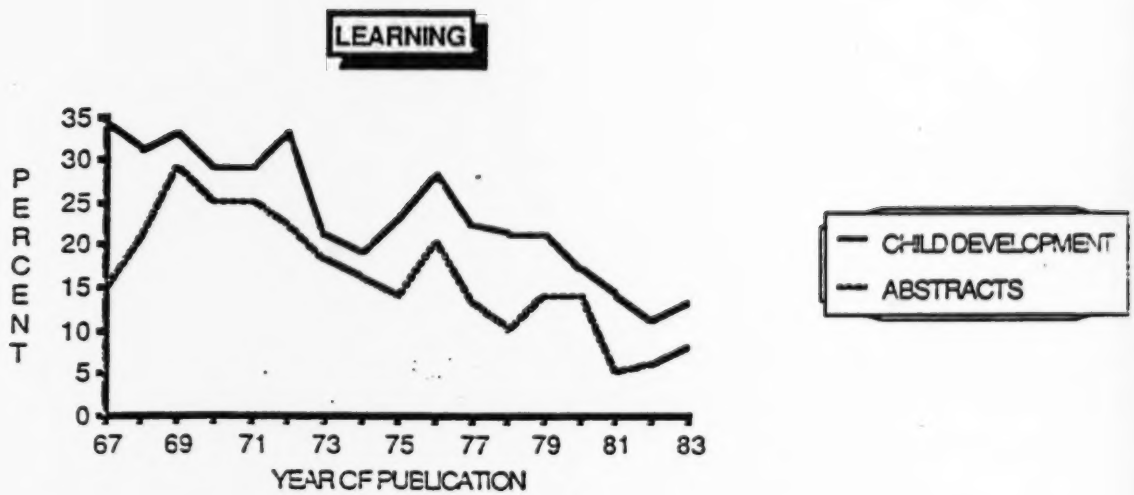


Figure 3: Percent Articles Citing Learning Annually

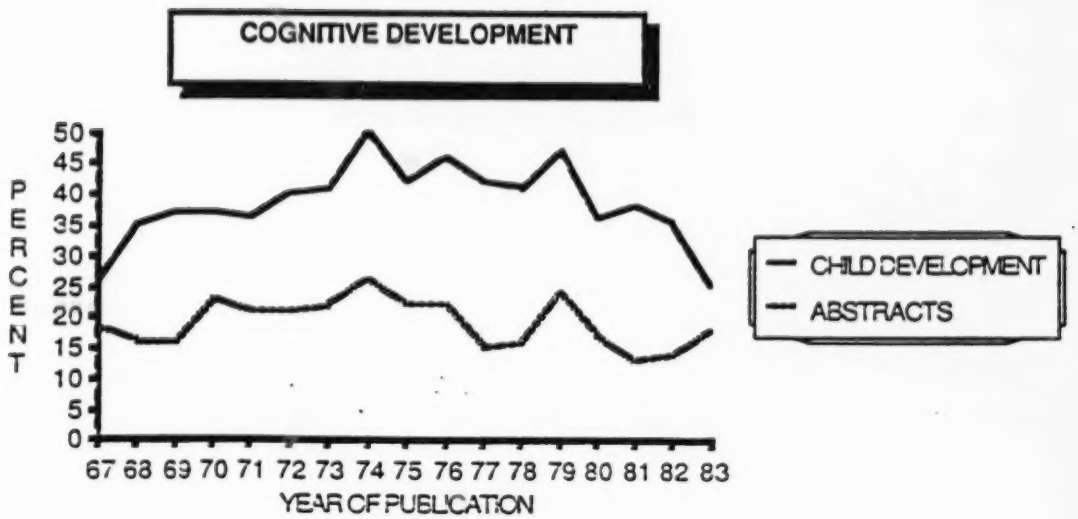


Figure 4 : Percent of Articles
Citing Cognitive Development Annually

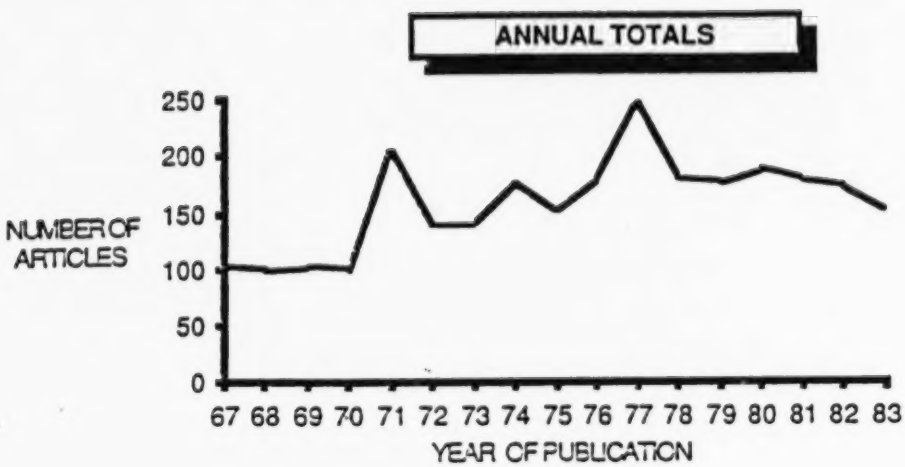


Figure 1: Total Number of articles published per year in Child Development